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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/749,818

12/31/2003

David W. Boggs

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02/17/2005

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EXAMINER

NASRI, JAVAID H

ART UNIT

PAPER NUMBER

2839

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CT

Office Action Summary	Application No. 10/749,818	Applicant(s) BOGGS ET AL.	
	Examiner Javaid Nasri	Art Unit 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Abstract

1. The abstract of the disclosure is objected to because:
 - a) In the abstract line 7, specify methods of what?

Correction is required. See MPEP § 608.01(b).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the

- a) Three dimensional domes, per claim 5

Must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 7, 8 and 13-19 are objected to because of the following informalities:
- a) In claim 7, line 4, change "fist side" to -- first side --.
 - b) In claim 13, line 12; specify "a plurality of trace pads" of what?
 - c) In claim 16, line 2, it is not clear "a dome height of a plastic material".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Sinclair (5,427,535).

Sinclair discloses, **for claim 1**, a plurality of interposer contact pads (46) on a first side of a generally planar interposer (26), the interposer contact pads aligned on the first side to contact (through 50 or directly when compressed), a plurality of first contacts of a first electronic device (10b); a plurality of pressure contacts (52) formed in the interposer, the pressure contacts having

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a contact surface on the second side of the interposer to removably contact a plurality of second contacts of a second electronic device (14b); a plurality of electrical connections between the interposer contact pads and the pressure contacts (portion between pressure contacts and the contact pads); wherein the pressure contacts and the contact surface are directionally deformable in a direction from the second side of the generally planar interposer towards the first side, **for claim 2**, the interposer has a spacing of the pressure contacts relative to the interposer contact pads to simultaneously physically align and simultaneously electronically connect the first contacts with the second contacts, **for claim 5**, the pressure contacts include a plurality of flexible three-dimensional domes formed in the generally planar interposer under the pressure contacts, **for claim 10**, the generally planar interposer includes a layer of one of a polyimide, a polyester, a polycarbonate, a Mylar, a polyvinyl chloride (PVC), a cellulose acetate, and a plastic material, **for claim 11**, the contact surface includes a conductor material having a surface plated or coated with a metal (see col. 6, line 19), **for claim 12**, the interposer contact pads are conductive material without a metal coating or plating (see col. 6, line 19, note: phrase “may be” used, that means the plating does not have to be there) and are configured to be permanently attached to the first contacts by one of solder, conductive paste, and conductive adhesive, (see col.4, line 14), **for claim 13**, a generally planar shaped base (26) having a first side, a second side, and a plurality of holes extending through the base from the first side to the second side; a plurality of interposer contact pads (46) aligned on the first side of the planar shaped base to electronically connect to a plurality of first contact pads of a first electronic device (10b); a plurality of pressure contacts (52) on the second side of the planar shaped base to form removable electrical pressure connections to a plurality of second contact pads of a second

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electronic device (14b); a plurality of traces on the first side electronically connecting the interposer contact pads to a plurality of trace pads; wherein respective ones of the plurality of trace pads include an electrical connection (part connecting 50 and 52) disposed through one of the plurality of holes to respective ones of the plurality of pressure contacts, **for claim 14**, the trace pad, trace, and interposer contact pad define a dog-bone or dumbbell shape, (see figure 9), **for claim 15**, the electrical connection includes a conductive filler (portion connecting 50 and 52) in a hole, **for claim 16**, the pressure contacts include a plurality of domes having a dome (50, 52) diameter and a dome height of a plastic material having an elasticity and a thickness sufficient to flex in response to a maximum pressure of between 0.4 Newton and 1.4 Newton in pressure applied to the pressure contacts without permanently deforming or damaging the pressure contacts.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 4, 6-9 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinclair.

Sinclair discloses all the limitations of claims 1 and 13, as shown above,

However, Sinclair does not disclose:

- a) For claims 4, 8, 16 and 17, maximum pressure of between 0.4/0.2 Newton and 1.4/0.6 Newton and modulus of elasticity greater than the pressure applied. It is inherent that the pressure should be between 0.4/0.2 Newton and 1.4/0.6 Newton and it would have been obvious to one of ordinary skill in the art, at the time of the invention for the pressure to be between 0.4/0.2 Newton and 1.4/0.6 Newton in order not to permanently deform the structure and thus the modulus of elasticity greater than the pressure applied.
- b) For claims 20-22, Sinclair discloses all the structural limitations of claims 20-22 as shown above, however, Sinclair does not describe the method as claimed. The claimed method language is counter part of the apparatus claimed. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to develop a particular method for the disclosed apparatus of the cited references.
- c) For claims 3, 6, 7, 9 18 and 19, the various dimensions. It would have been an obvious matter of design choice to for Sinclair to have the various dimensions as claimed, since such a modification would have involved a mere change in the size or shape of a component. A change in size or shape is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Contact

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javaid Nasri whose telephone number is 571 272 2095. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tulsidas C. Patel can be reached on 571 272 2800 ext 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any correspondence to this action may be mailed to:

**Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450**

For additional information regarding this new address, which was effective May 1, 2003, see *Correspondence with the United States Patent and Trademark Office*, 68 Fed. Reg. 14332 (March 25, 2003).

Or faxed to: 703-308-7722 or 308-7724 (informal or draft communications should be clearly labeled "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to:

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Javaid Nasri
Primary Examiner
Art Unit 2839

JN

jhn

February 15, 2005